UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,773	10/30/2000	Tara Lynn Alvarez	2-4-3	7026

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EXAMINER
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ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 October 2005</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,3 and 12-20</u> is/are rejected.

7)☒ Claim(s) <u>4-11</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1, 12 and 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over

Gurusami et al. (U.S. Patent No. 6,031,846), hereinafter referred as Gurusami in view of

Valencia (U.S. Patent No. 6,650,652).

Regarding claim 1, Gurusami discloses a method for transmitting DSI (Delay

Sensitive Information) over a communication link of a communication network **[each**

receiver transmits packets of telephony-voice communication over a link to each

transmitter after applying a delay factor for each transmitter, col. 7, lines 57 to col.

8, lines 5 and see fig. 10] the method comprising the steps of:

transmitting an initial DSI after selectively applying a delay to the initial DSI

[each receiver transmits packets of telephony-voice communication to each

transmitter after applying a delay factor for each transmitter, col. 7, lines 57 to col.

8, lines 5 and see fig. 10; *Note: according to col. 7, lines 57 to col. 8, lines 10.*

Gurusami et al establishes that the delay factor is determined based on the packet arrival

time and Gurusami selectively applies the delay at each transmitter based on the packet

arrival time from the corresponding transmitter. By amending the claim to include the

word, "selectively", does not further limit the claim since, "selectively" based on the

given broadest reasonable interpretation consistent with the specification suggests

merely applying delay to some or all received delay sensitive information (DSI) packets.]

where

such delay is based on a determined periodicity of received DSI **[the receiver**

first measures a packet arrival time of each packet from each transmitter and

determines a delay factor for each transmitter, each of the transmitter delay factors

being dependent upon the packet arrival time from the corresponding transmitter,

see col. 7, lines 40-60 and fig. 10; *Note: periodicity is the consecutive packets being*

received by the receiver with respective arrival times from which the receiver determines

the delay factor]. Although Gurusami discloses in col. 7, lines 40-45 of packets of

telephony and data, *Gurusami fails to explicitly identify or distinguish a received delay*

sensitive information (DSI) and non-delay sensitive information (NDSI). Valencia

discloses in figure 4 and col. 9, lines 9-31 when the receiver being able to distinguish by

monitoring if a latency-sensitive packet such as a UDP voice packet is received or

latency-insensitive packet such as data. Based on the latency sensitivity of the packet,

default action of transmission with respect to fragmentation or without fragmentation

takes place. Therefore, it would have been obvious to one of ordinary skills in the art at

the time of the invention to modify the teachings of Gurusami to include the features of

distinguishing between delay sensitive and delay insensitive packets as taught by

Valencia. One is motivated as such in order to cause a downlink to increase the size of a

maximum allowed transferable unit for the link.

Regarding claim 12, Gurusami further discloses the steps of:

maintaining a list of transmission times for received initial DSI [**the receiver measures the packet arrival time for each transmitter, thus inherently maintains a list of times of received packets times, see col. 7, lines 50-55 and fig. 10**]; establishing a transmission time for each received initial DSI [**the receiver determines the delay factors being dependent upon the packet arrival time and communicates to each transmitter dependent upon the corresponding transmitter delay factor times, see col. 7, lines 58 to col. 8, lines 5**]; and updating the list when an initial DSI is received [**the list of packet arrival times are inherently updated and measured every time an packet (telephony) arrives at the receiver, col. 7, lines 40-60**] as claim.

Regarding claim 16, Gurusami discloses a method for delaying of transmission of a set of packets associated with a packet flow [**each receiver transmits packets of telephony-voice communication over a link to each transmitter after applying a delay factor for each transmitter, col. 7, lines 57 to col. 8, lines 5 and see fig. 10**] the method comprising:

transmitting an initial DSI after selectively applying a delay to the DSI based on the (received packet arrival time) parameter associated with the DSI of the packet [**each receiver transmits packets of telephony-voice communication to each transmitter after applying a delay factor, which is the packet arrival time parameter for each transmitter, col. 7, lines 57 to col. 8, lines 5 and see fig. 10**; *Note: according to col. 7, lines 57 to col. 8, lines 10. Gurusami et al establishes that the delay factor is determined based on the packet arrival time*

and Gurusami selectively applies the delay at each transmitter based on the packet arrival time

from the corresponding transmitter. By amending the claim to include the word, "selectively",

does not further limit the claim since, "selectively" based on the given broadest reasonable

interpretation consistent with the specification suggests merely applying delay to some or all

received delay sensitive information (DSI) packets.] where

such delay is based on a determined periodicity (parameter) of received DSI [the receiver

first measures a packet arrival time of each packet from each transmitter and determines a delay

factor for each transmitter, each of the transmitter delay factors being dependent upon the packet

arrival time from the corresponding transmitter, see col. 7, lines 40-60 and fig. 10; *Note:*

periodicity is the consecutive packets being received by the receiver with respective arrival times

from which the receiver determines the delay factor]. Although Gurusami discloses in col. 7,

lines 40-45 of packets of telephony and data, *Gurusami fails to disclose of explicitly identifying*

or distinguishing a received delay sensitive information (DSI) and non-delay sensitive

information (NDSI). Valencia further discloses in figure 4 and col. 9, lines 9-31 when the

receiver being able to distinguish by monitoring if a latency-sensitive packet such as a UDP

voice packet is received or latency-insensitive packet such as data. Based on the latency

sensitivity of the packet, default action of transmission with respect to fragmentation or without

fragmentation takes place. Therefore, it would have been obvious to one of ordinary skills in the

art at the time of the invention to modify the teachings of Gurusami to include the features of

distinguishing between delay sensitive and delay insensitive packets as taught by Valencia. One

is motivated as such in order to cause a downlink to increase the size of a maximum allowed

transferable unit for the link.

Regarding claim 17, Gurusami discloses a method for delaying of transmission of a set of

packets associated with a packet flow [**each receiver transmits packets of telephony-voice**

communication over a link to each transmitter after applying a delay factor for each

transmitter, col. 7, lines 57 to col. 8, lines 5 and see fig. 10] the method comprising:

transmitting an initial DSI after selectively applying a delay to the DSI based on the

(received packet arrival time) parameter associated with the DSI of the packet [**each receiver**

transmits packets of telephony-voice communication to each transmitter after applying a

delay factor, which is the packet arrival time parameter for each transmitter, col. 7, lines

57 to col. 8, lines 5 and see fig. 10; *Note: according to col. 7, lines 57 to col. 8, lines 10.*

Gurusami et al establishes that the delay factor is determined based on the packet arrival time

and Gurusami selectively applies the delay at each transmitter based on the packet arrival time

from the corresponding transmitter. By amending the claim to include the word, "selectively",

does not further limit the claim since, "selectively" based on the given broadest reasonable

interpretation consistent with the specification suggests merely applying delay to some or all

received delay sensitive information (DSI) packets.] where

such delay is based on a determined periodicity (parameter) of received DSI [the receiver

first measures a packet arrival time of each packet from each transmitter and determines a delay

factor for each transmitter, each of the transmitter delay factors being dependent upon the packet

arrival time from the corresponding transmitter, see col. 7, lines 40-60 and fig. 10; *Note:*

periodicity is the consecutive packets being received by the receiver with respective arrival times

from which the receiver determines the delay factor]. Although Gurusami discloses in col. 7,

lines 40-45 of packets of telephony and data, *Gurusami fails to disclose of determining whether the received DSI is an initial DSI and to explicitly identify or distinguish a received delay sensitive information (DSI) and non-delay sensitive information (NDSI).* Valencia discloses in col. 9, lines 9-31 of receiving a first latency-sensitive packet such as a UDP voice packet. Valencia further discloses in figure 4 and col. 9, lines 9-31 when the receiver being able to distinguish by monitoring if a latency-sensitive packet such as a UDP voice packet is received or latency-insensitive packet such as data. Based on the latency sensitivity of the packet, default action of transmission with respect to fragmentation or without fragmentation takes place. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Gurusami to include the features of distinguishing between delay sensitive and delay insensitive packets as taught by Valencia. One is motivated as such in order to cause a downlink to increase the size of a maximum allowed transferable unit for the link.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 13-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Gurusami et al. (U.S. Patent No. 6,031,846) in view of Ellis et al (U.S. Patent No. 5,4973,71).

Regarding claim 13, Regarding claim 1, Gurusami discloses a method for transmitting

DSI (Delay Sensitive Information) and non-delay sensitive information (NDSI) over a

communication link of a communication network **[each receiver transmits packets of**

telephony-voice and data communication signals over a link to each transmitter after

applying a delay factor for each transmitter, col. 7, lines 57 to col. 8, lines 5 and see fig. 10]

the method comprising the steps of:

transmitting an initial DSI after selectively applying a delay to the initial DSI

[each receiver transmits packets of telephony-voice communication to each

transmitter after applying a delay factor for each transmitter, col. 7, lines 57 to col.

8, lines 5 and see fig. 10; *Note: according to col. 7, lines 57 to col. 8, lines 10.*

Gurusami et al establishes that the delay factor is determined based on the packet arrival

time and Gurusami selectively applies the delay at each transmitter based on the packet

arrival time from the corresponding transmitter. By amending the claim to include the

word, "selectively", does not further limit the claim since, "selectively" based on the

given broadest reasonable interpretation consistent with the specification suggests

merely applying delay to some or all received delay sensitive information (DSI) packets.]

where

such delay is based on a determined periodicity of received DSI **[the receiver**

first measures a packet arrival time of each packet from each transmitter and

determines a delay factor for each transmitter, each of the transmitter delay factors

being dependent upon the packet arrival time from the corresponding transmitter,

see col. 7, lines 40-60 and fig. 10; *Note: periodicity is the consecutive packets being*

> *received by the receiver with respective arrival times from which the receiver determines*
>
> *the delay factor].*

Gurusami discloses in col. 6, lines 42-58 that transmission for each device is specified with twelve bytes of payload. Gurusami fails to explicitly disclose a defined length of NDSI (Non-delay sensitive information) being transmitted. Ellis et al teaches of an efficient packet transport system for mixed traffic in which a packet fragmentation protocol allows traffic of difference classes to occupy a single physical link. Ellis et al discloses in column 7, lines 54 to column 8, lines 40 that since packets within the broadband network are of fixed or variable length, the delay is based on a defined length such as 16Kbytes of low priority data (data-delay insensitive) being transmitted. Therefore, it would have been obvious to one of ordinary skills in the art to modify the teachings of Gurusami et al to include the delay based on defined length NDSI being transmitted as taught by Ellis et. al in order to accurately account for and alter non-sensitive traffic causing delay in a coexisting link thus efficiently transporting delay sensitive traffic with minimal switching and assembly delays.

Regarding claim 14, Gurusami discloses in figure 1 of apparatus (NIU 15) configured as an IAD coupled to subscriber equipment (16 and 18) and to an access network 13 as claim.

Regarding claim 15, Gurusami discloses in figure 1 of an apparatus (NIU 15, fig. 1) configured as part of host equipment (such as computer 16, fig. 1) where such host equipment is coupled to an access network (telephone network, fig. 4) and to a packet based communication network (see fig. 4, data packet network).

5.   Claims 3 and 18-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Gurusami

in view of Valencia as applied to claim 1 above, and further in view of Ellis et al (U.S. Patent

No. 5,4973,71).

Regarding claims 3, Gurusami discloses in col. 7, lines 40-45 of transmitting delay

sensitive packets (telephony) and non-delay sensitive (data) packets over a communications link.

Gurusami discloses in col. 6, lines 42-58 that transmission for each device is specified with

twelve bytes of payload. Valencia discloses in figure 4 and col. 9, lines 9-31 when the receiver

being able to distinguish by monitoring if a latency-sensitive packet such as a UDP voice packet

is received or latency-insensitive packet such as data. Based on the latency sensitivity of the

packet, default action of transmission with respect to fragmentation or without fragmentation

takes place. Gurusami in view of Valencia fails to explicitly disclose a defined length of NDSI

(Non-delay sensitive information) being transmitted. Ellis et al teaches of an efficient packet

transport system for mixed traffic in which a packet fragmentation protocol allows traffic of

difference classes to occupy a single physical link. Ellis et al discloses in column 7, lines 54 to

column 8, lines 40 that since packets within the broadband network are of fixed or variable

length, the delay is based on a defined length such as 16Kbytes of low priority data (data-delay

insensitive) being transmitted. Therefore, it would have been obvious to one of ordinary skills in

the art to modify the teachings of Gurusami in view of Valencia to include the delay based on

defined length NDSI being transmitted as taught by Ellis et. al in order to accurately account for

and alter non-sensitive traffic causing delay in a coexisting link to efficiently transport delay

sensitive traffic with minimal switching and assembly delays.

Regarding claim 18, Gurusami discloses in col. 7, lines 40-45 of transmitting delay

sensitive packets (telephony) and non-delay sensitive (data) packets over a communications link.

Gurusami discloses in col. 6, lines 42-58 that transmission for each device is specified with

twelve bytes of payload. Valencia discloses in figure 4 and col. 9, lines 9-31 when the receiver

being able to distinguish by monitoring if a latency-sensitive packet such as a UDP voice packet

is received or latency-insensitive packet such as data. Based on the latency sensitivity of the

packet, default action of transmission with respect to fragmentation or without fragmentation

takes place. Gurusami in view of Valencia fails to explicitly disclose applying the delay to the

DSI based on the packet length of the NDSI being transmitted. Ellis et al teaches of an efficient

packet transport system for mixed traffic in which a packet fragmentation protocol allows traffic

of difference classes to occupy a single physical link. Ellis et al discloses in column 7, lines 54

to column 8, lines 40 that since packets within the broadband network are of fixed or variable

length, the delay is based on a defined length such as 16Kbytes of low priority data (data-delay

insensitive) being transmitted. Therefore, it would have been obvious to one of ordinary skills in

the art to modify the teachings of Gurusami in view of Valencia to include the delay based on

defined length NDSI being transmitted as taught by Ellis et. al in order to accurately account for

and alter non-sensitive traffic causing delay in a coexisting link to efficiently transport delay

sensitive traffic with minimal switching and assembly delays.

Regarding claim 19, Gurusami discloses in col. 7, lines 40-45 of transmitting telephony

voice data, which in the art is considered delay sensitive information, clearly establishing

transmitting the DSI over a communication link of a communication network as claim.

Regarding claim 20, Although Gurusami discloses in col. 7, lines 40-45 of packets of

telephony and data, *Gurusami fails to explicitly identify or distinguish a received delay sensitive*

information (DSI) and non-delay sensitive information (NDSI) is transmitted over the

communication link. Valencia discloses in figure 4 and col. 9, lines 9-31 when the receiver being

able to distinguish by monitoring if a latency-sensitive packet such as a UDP voice packet is

received or latency-insensitive packet such as data. The respective section suggests the

simultaneous transmission of delay sensitive and insensitive packets are transmitted over one

link. Based on the latency sensitivity of the packet, default action of transmission with respect to

fragmentation or without fragmentation takes place. Therefore, it would have been obvious to

one of ordinary skills in the art at the time of the invention to modify the teachings of Gurusami

to include the features of transmission of DSI and NDSI over one link as taught by Valencia.

One is motivated as such in order to cause a downlink to increase the size of a maximum allowed

transferable unit for the link

Allowable Subject Matter

6.   Claims 4-11 objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

Response to Arguments

7.   Applicant's arguments with respect to claims 1, 3, and 16-20 have been considered but
are moot in view of the new ground(s) of rejection. Applicant's amendment necessitated the new
ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE
FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set
forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within TWO
MONTHS of the mailing date of this final action and the advisory action is not mailed until after
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37
CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,
however, will the statutory period for reply expire later than SIX MONTHS from the date of this
final action.

Regarding claims 13-15, Applicant argues that the claim 13 has been amended to include
among other things, an apparatus that selectively applied a delay. Examiner respectfully
disagrees and redirects Applicant to Gurusami et al (U.S. Patent No. 6,031,846), specifically col.
7, lines 57 to col. 8, lines 10. Gurusami et al establishes that the delay factor is determined based
on the packet arrival time and Gurusami selectively applies the delay at each transmitter based
on the packet arrival time from the corresponding transmitter. Furthermore, as stated in the
MPEP 2111 and the case law In re Hyatt, 211 R.3d 1367, 1372,54 USPQ2d 1664, 1667 (Fed.

Cir. 2000), during patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification. Thus, by amending the claim to include the word, "selectively", does not further limit the claim since, "selectively" based on the given broadest reasonable interpretation consistent with the specification suggests merely applying delay to some or all received delay sensitive information (DSI) packets. Therefore, claims 13-15 remain unpatentable as U.S.C. 103(a) over Gurusami in view of Ellis.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G. Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7682. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs
April 24, 2006

Chirag Shah
Patent Examiner, Division 2616